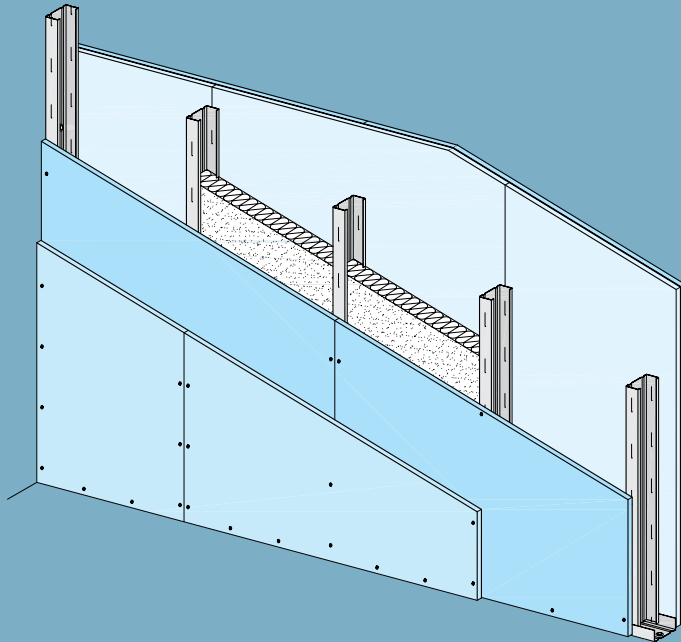


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# Knauf Metal Stud Partitions

- |             |                                                                                        |
|-------------|----------------------------------------------------------------------------------------|
| <b>W111</b> | <b>Knauf Metal Stud Partition</b> - single metal stud frame, single layer cladding     |
| <b>W112</b> | <b>Knauf Metal Stud Partition</b> - single metal stud frame, double layer cladding     |
| <b>W115</b> | <b>Knauf Metal Stud Partition</b> - double metal stud frame, double layer cladding     |
| <b>W116</b> | <b>Knauf Installation Wall</b> - linked double metal stud frame, double layer cladding |

Updated wall heights  
with the new  
Knauf CW+ Studs

The structural, statical properties, and characteristic building physics of Knauf systems can solely be ensured with the exclusive use of Knauf system components, or other products expressly recommended by Knauf.

# Knauf Metal Stud Partitions

# W11

## Technical Data / Sound Protection

| System                | Technical data                                                                                                                                                                                            | Sound protection                             | In-sulation                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------|
|                       | <b>dimensions</b><br><b>wall</b> <b>stud</b> <b>cladding</b><br><b>thick-</b> <b>(ca-</b> <b>thick-</b><br><b>ness</b> <b>vity)</b> <b>ness</b> <b>type</b><br><b>D</b> <b>h</b> <b>d</b><br>mm   mm   mm | <b>proof</b> <b>R<sub>w,R</sub></b><br>dB 2) | <b>nominal</b><br><b>thickness</b><br>mm 3) |
| For legend see page 3 | approx.<br>kg/m <sup>2</sup> 1)                                                                                                                                                                           |                                              |                                             |

### W111 Metal Stud Partition single metal stud frame - single layer cladding

|  |     |     |                                                                                 |    |           |     |
|--|-----|-----|---------------------------------------------------------------------------------|----|-----------|-----|
|  | 75  | 50  | <b>12.5</b><br><b>Knauf</b><br><b>RG</b><br><b>FR</b><br><b>MR</b><br><b>FM</b> | 25 | <b>42</b> | 40  |
|  | 95  | 70  |                                                                                 |    | <b>43</b> | 60  |
|  | 117 | 92  |                                                                                 |    | <b>44</b> | 80  |
|  | 171 | 146 |                                                                                 |    | <b>45</b> | 100 |

### W112 Metal Stud Partition single metal stud frame - double layer cladding

|  |     |     |                                                                                     |    |                        |          |
|--|-----|-----|-------------------------------------------------------------------------------------|----|------------------------|----------|
|  | 100 | 50  | <b>2 x 12.5</b><br><b>Knauf</b><br><b>RG</b><br><b>FR</b><br><b>MR</b><br><b>FM</b> | 45 | <b>50</b>              | 40       |
|  | 120 | 70  |                                                                                     |    | <b>51</b>              | 40       |
|  | 142 | 92  |                                                                                     |    | <b>51</b><br><b>52</b> | 40<br>60 |
|  | 196 | 146 |                                                                                     |    | <b>53</b>              | 100      |

### W115 Metal Stud Partition double metal stud frame - double layer cladding

|  |     |     |                                                                                     |    |                        |            |
|--|-----|-----|-------------------------------------------------------------------------------------|----|------------------------|------------|
|  | 155 | 105 | <b>2 x 12.5</b><br><b>Knauf</b><br><b>RG</b><br><b>FR</b><br><b>MR</b><br><b>FM</b> | 48 | <b>59</b>              | 2x40       |
|  | 195 | 145 |                                                                                     |    | <b>58</b><br><b>61</b> | 60<br>2x60 |
|  | 239 | 189 |                                                                                     |    | <b>60</b><br><b>63</b> | 80<br>2x80 |

For notes and sound protection proofs see page 3

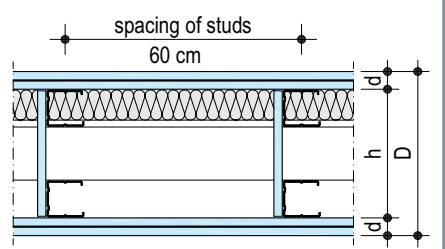
# Knauf Metal Stud Partitions

# W11

## Technical Data / Sound Protection

| System | Technical data                          | Sound protection                   | In-sulation                |
|--------|-----------------------------------------|------------------------------------|----------------------------|
|        | dimensions<br>wall thickness<br>D<br>mm | proof<br>R <sub>w,R</sub><br>dB 2) | nominal thickness<br>mm 3) |
|        | stud (cavity)<br>h<br>mm                |                                    |                            |
|        | cladding thickness<br>d<br>mm           |                                    |                            |
|        | type<br>approx. kg/m <sup>2</sup> 1)    |                                    |                            |

### W116 Installation Wall double metal stud frame - double layer cladding

|                                                                                   |                                                                                                   |           |           |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------|-----------|
|  | ≥ 220   ≥ 170 <b>2 x 12.5</b> <b>Knauf</b><br><b>RG</b> 49<br><b>FR</b><br><b>MR</b><br><b>FM</b> | <b>52</b> | <b>40</b> |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------|-----------|

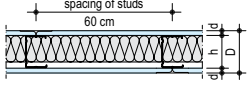
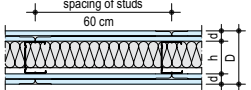
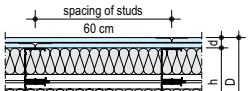
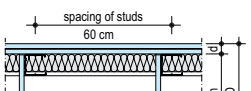
- weight without insulation
- R<sub>w,R</sub> = calculation value of sound reduction index of the separating partition according to EN ISO 140-3 and EN ISO 717-1 without longitudinal transmission via flanking components
- insulation according to DIN EN 13162 length related flow resistance according to DIN EN 29053:  $r \geq 5 \text{ kPa} \cdot \text{s/m}^2$  thermal conductivity class: 040

**Note** Sound protection values are valid only in connection with the use of Knauf CW+ series studs.

#### Note on Board Abbreviations

| Board Type                                          | German (DIN 18180) | European (EN 520) | British (BS 1230) |
|-----------------------------------------------------|--------------------|-------------------|-------------------|
| Knauf Regular Gypsum Board (RG)                     | GKB                | Type A            | Type 1            |
| Knauf Fire-Resistant Gypsum Board (FR)              | GKF                | Type A, F         | Type 5            |
| Knauf Moisture-Resistant Gypsum Board (MR)          | GKBI               | Type A, H2        | Type 3            |
| Knauf Fire and Moisture-Resistant Gypsum Board (FM) | GKFI               | Type A, F, H2     | Type 3, 4, 5      |

## Technical Data / Fire Protection

| System                                                                                                                 | Fire Rating <sup>(2)</sup><br>(hours) | Cladding                                            |                          |               | Stud            |                 |                 |                            | min. wall Thickness (mm) |
|------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------|--------------------------|---------------|-----------------|-----------------|-----------------|----------------------------|--------------------------|
|                                                                                                                        |                                       | Board Type / Building Material Class <sup>(1)</sup> | min.board thickness (mm) | No. of Layers | Stud Type       | min. Gauge (mm) | min. width (mm) | Max. Spacing of Studs (mm) |                          |
| <b>W111 Metal Stud Partition</b><br>   | 0.5                                   | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 12.5                     | 1             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 75                       |
|                                                                                                                        | 1                                     | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 15                       | 1             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 80                       |
| <b>W112 Metal Stud Partition</b><br>   | 1                                     | Knauf RG or Knauf MR / A2-s1, d0 (B)                | 12.5                     | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 100                      |
|                                                                                                                        | 1.5                                   | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 12.5                     | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 100                      |
|                                                                                                                        | 2                                     | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 15                       | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 110                      |
| <b>W115 Metal Stud Partition</b><br> | 1                                     | Knauf RG or Knauf MR / A2-s1, d0 (B)                | 12.5                     | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 155                      |
|                                                                                                                        | 1.5                                   | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 12.5                     | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 155                      |
|                                                                                                                        | 2                                     | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 15                       | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 165                      |
| <b>W116 Metal Stud Partition</b><br> | 1                                     | Knauf RG or Knauf MR / A2-s1, d0 (B)                | 12.5                     | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 220                      |
|                                                                                                                        | 1.5                                   | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 12.5                     | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 220                      |
|                                                                                                                        | 2                                     | Knauf FR or Knauf FM / A2-s1, d0 (B)                | 15                       | 2             | Knauf CW+ Studs | 0.6mm           | 50              | 600                        | 220                      |

### Note

Fire Protection values are valid only in connection with the use of Knauf CW+ Stud Series

(1) Non combustibility class according to DIN EN 13501

(2) All fire rating durations are in accordance with BS476: Part22:1987, EN1364-1:1999 and DIN4102-4.

For fire rating performance of Knauf W11 Partition Systems according to ASTM E119 contact Knauf Drywall Systems Technical Team

## Fire Protection: Connections

### Connections of "lightweight" partitions to classified suspended ceilings

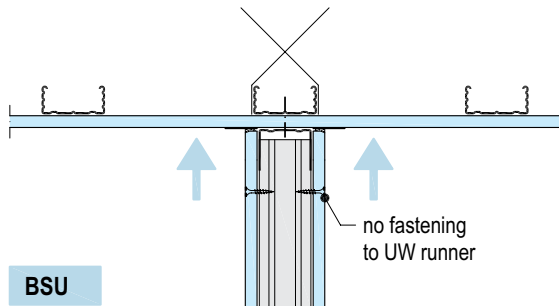
scheme drawings

Connections of partitions to classified ceilings (suspended ceilings) are only allowed if it is ensured that in case of fire and a premature collapse of the partition the scrap of the partition may fall down without additional loading of the ceiling.

The following solutions are optional for the connection:

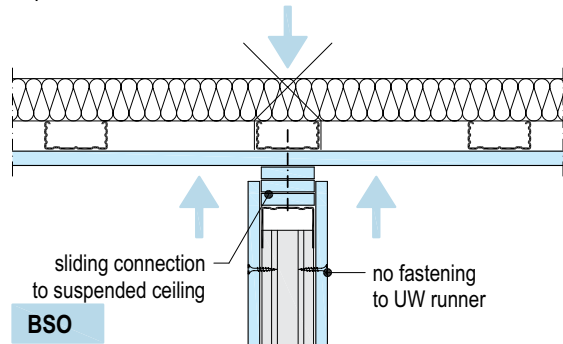
#### Fire protection from below

For suspended ceilings with fire protection **from below** do not fasten cladding to UW runner, but apply cladding tightly up to ceiling.



#### Fire protection from below and from above / from above

For suspended ceilings with fire protection **from below and from above / from above** install a sliding ceiling connection as standard implementation with at least 15 mm allowable movement.



#### Note

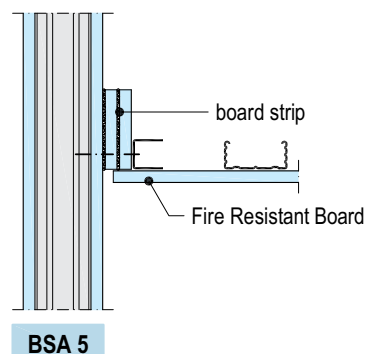
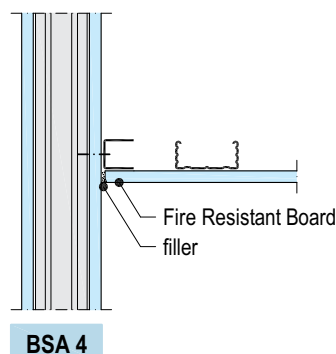
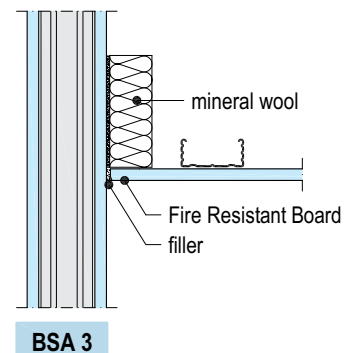
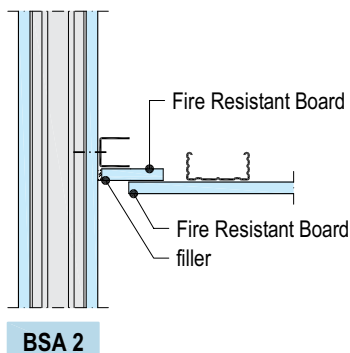
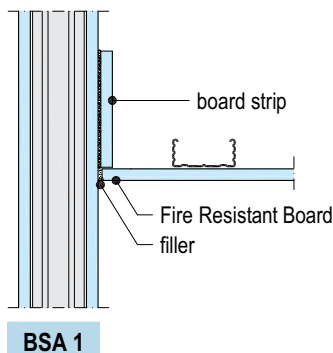
In case of fire protection requirements for the partition, the suspended ceiling should have at least the same fire rating.

### Fire protective connections to walls

Examples - scheme drawings

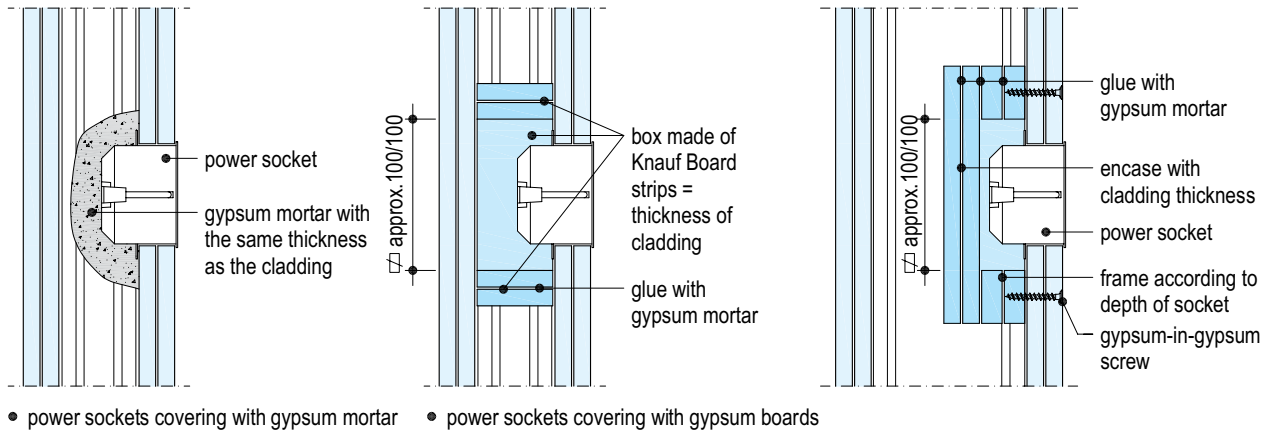
Suspended ceilings in connection with basic ceilings of building type I to IV as well as suspended ceilings solely for fire protection from below and / or from above that are fire rated 30 to 90 minutes can be connected to partitions if they are of the same fire rating.

Wall background should be even in the area of the connection. Specific levelling preparations might be necessary. The connection of the suspended ceiling has to be tight and covered.

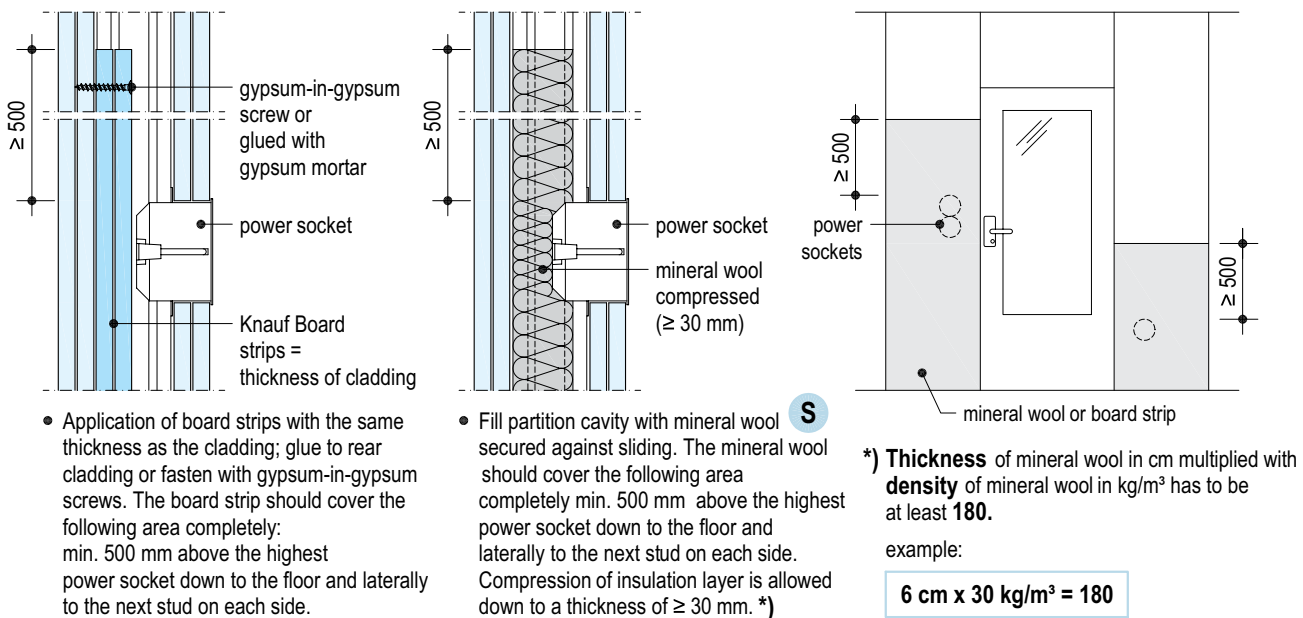


## Fire Protection: Installation of Power Sockets

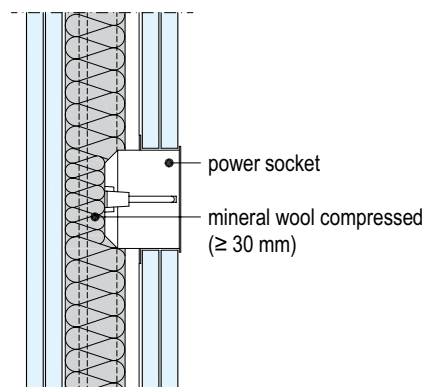
### Partitions with insulation min. B2 resp. without insulation



### • Only for single metal stud partitions



### Partitions according to DIN 4102-4 with mineral wool insulation melting point ≥ 1000°C



- insulation layers that are necessary for fire protection should be preserved but are allowed to be compressed down to ≥ 30 mm.

### Note

- Power sockets, switch sockets, splitter sockets etc. are allowed to be installed at any position, but not opposite to each other.
- Entry of single electric cables is allowed. The remaining opening has to be closed with gypsum mortar.

### Mineral wool insulation layer acc. to DIN EN 13162, chapter 3.1.1

- S** building material class A  
melting point ≥ 1000° C  
acc. to DIN 4102-17

scheme drawings - all dimensions in mm

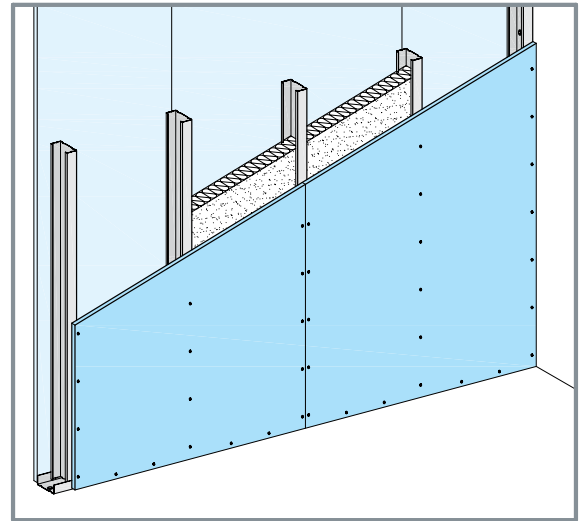
# Knauf Metal Stud Partition

# W111

## Single Metal Stud Frame, Single Layer Cladding

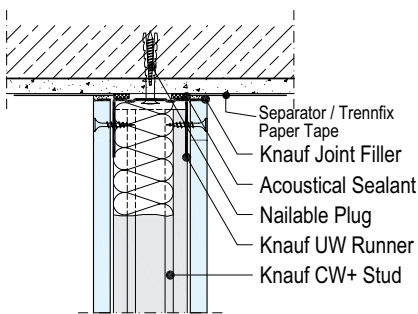
### Wall heights

| Studs                                       | Spacing of studs | Maximum wall heights |             |
|---------------------------------------------|------------------|----------------------|-------------|
|                                             |                  | Installation zone    |             |
| metal thickness 0.6mm<br>flange length 44mm | cm               | 1<br>(in m)          | 2<br>(in m) |
| Knauf Stud                                  | 60               | 3.15(*)              | -           |
| <b>CW+50</b>                                | 40               | 3.35                 | -           |
|                                             | 30               | 3.8                  | -           |
| Knauf Stud                                  | 60               | 3.90                 | -           |
| <b>CW+70</b>                                | 40               | 4.65                 | 4.65        |
|                                             | 30               | 5.10                 | 5.10        |
| Knauf Stud                                  | 60               | 5.15                 | 5.15        |
| <b>CW+92</b>                                | 40               | 5.90                 | 5.90        |
|                                             | 30               | 6.45                 | 6.45        |
| Knauf Stud                                  | 60               | 7.85                 | 7.85        |
| <b>CW+146</b>                               | 40               | 8.75                 | 8.75        |
|                                             | 30               | 9.30                 | 9.30        |

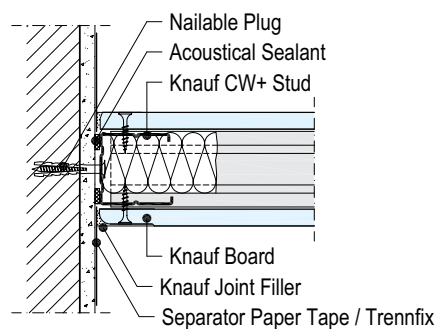


Maximum wall heights calculated based on limiting deflection of L/240 at 240Pa  
(\*) without any bracket load

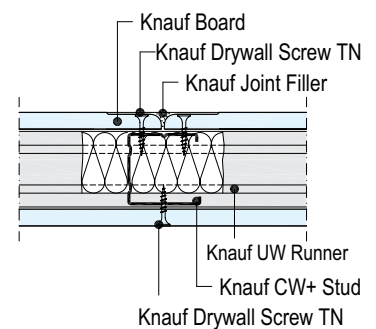
### Details scale 1:5



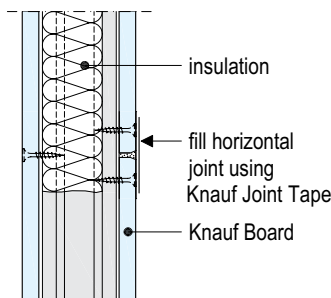
**W111-VO1** Connection to ceiling



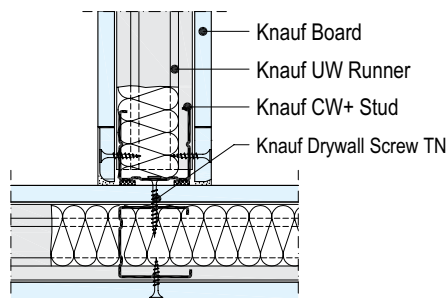
**W111-A1** Connection to solid wall



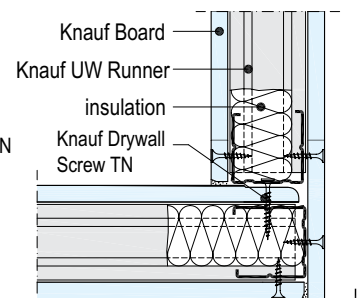
**W111-B1** Joint



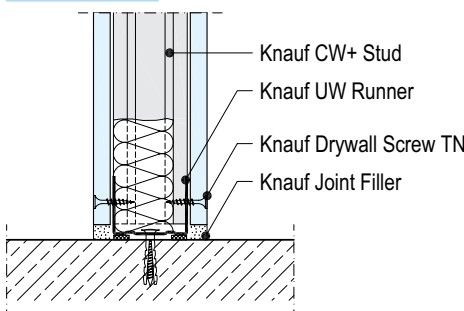
**W111-VM1** Joint



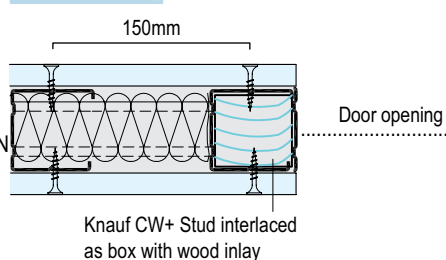
**W111-C1** T-Junction



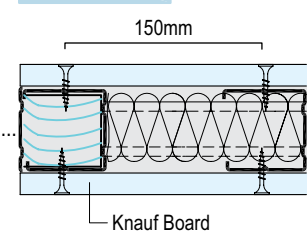
**W111-D1** Corner



**W111-VU1** Connection to floor



**W111-E2** Door opening with CW+ studs



**Note** For ceramic tiling maximum spacing of studs is 40 cm. (Knauf recommends W112 for ceramic tiling)



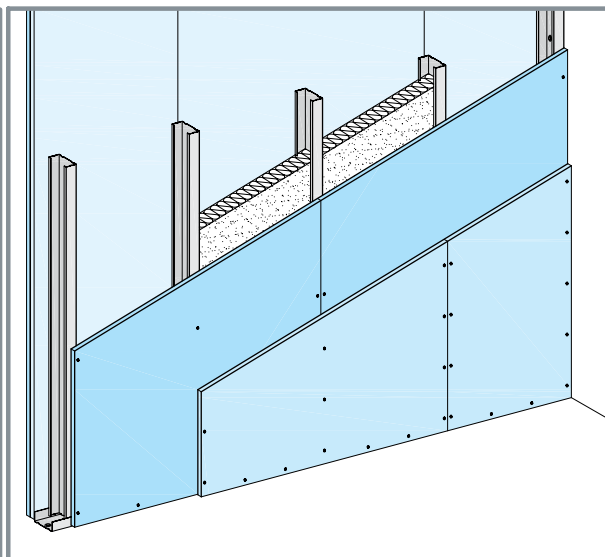
# Knauf Metal Stud Partition

# W112

## Single Metal Stud Frame, Double Layer Cladding

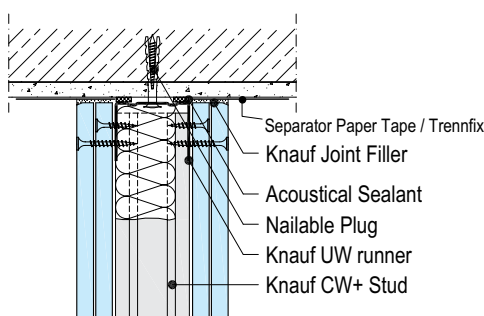
### Wall heights

| Studs                                       | Spacing of studs | Maximum wall heights |             |
|---------------------------------------------|------------------|----------------------|-------------|
|                                             |                  | Installation zone    |             |
| metal thickness 0.6mm<br>flange length 44mm | cm               | 1<br>(in m)          | 2<br>(in m) |
| Knauf Stud                                  | 60               | 3.45                 | -           |
|                                             | 40               | 4.25                 | 3.00        |
| <b>CW+50</b>                                | 30               | 4.80                 | 4.80        |
|                                             | 60               | 4.80                 | 4.80        |
| Knauf Stud                                  | 40               | 5.75                 | 5.75        |
|                                             | 30               | 6.30                 | 6.30        |
| <b>CW+70</b>                                | 60               | 6.30                 | 6.30        |
|                                             | 40               | 7.25                 | 7.25        |
| Knauf Stud                                  | 30               | 7.80                 | 7.80        |
|                                             | 60               | 9.50                 | 9.50        |
| Knauf Stud                                  | 40               | 10.45                | 10.45       |
|                                             | 30               | 11.05                | 11.05       |
| <b>CW+146</b>                               | 60               | 11.05                | 11.05       |
|                                             | 40               | 11.05                | 11.05       |

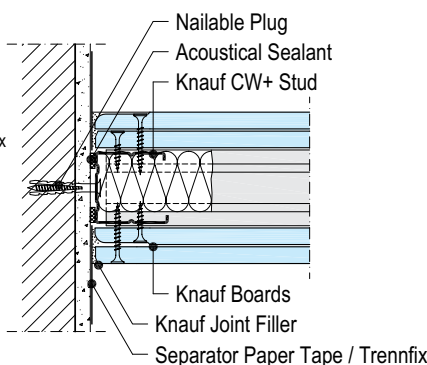


Maximum wall heights calculated based on limiting deflection of L/240 at 240Pa

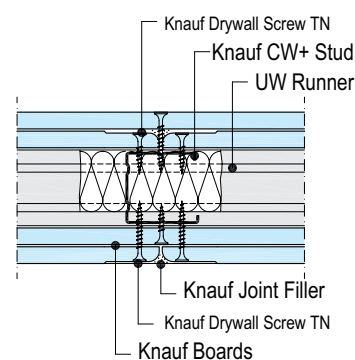
### Details scale 1:5



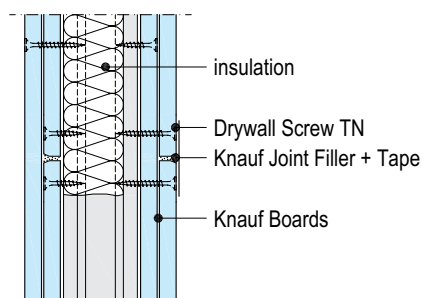
**W112-VO1** Connection to ceiling



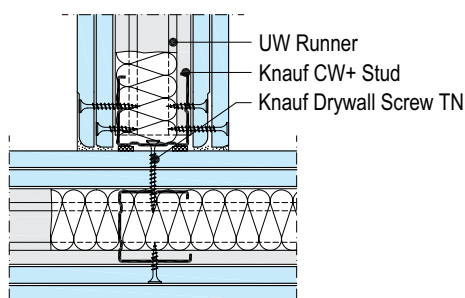
**W112-A1** Connection to solid wall



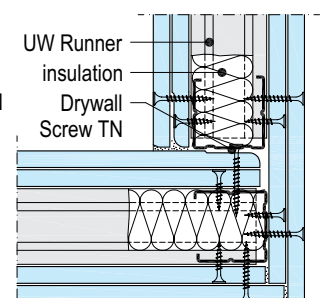
**W112-B1** Joint



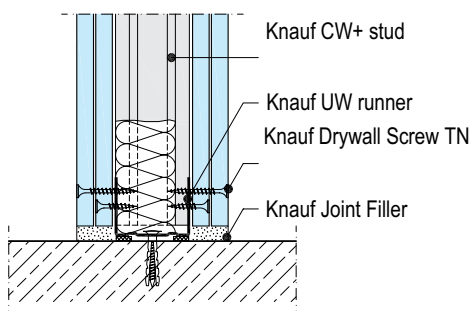
**W112-VM1** Joint



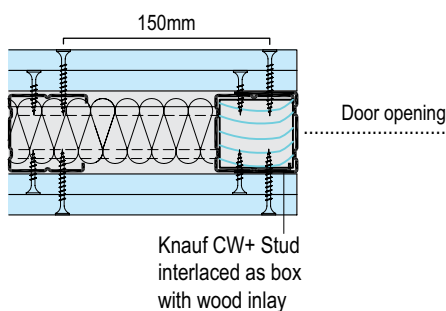
**W112-C1** T-Junction



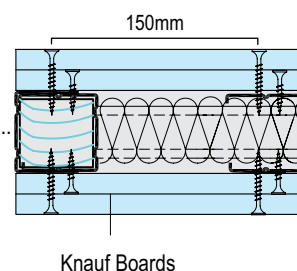
**W112-D1** Corner



**W112-VU1** Connection to floor



**W112-E2** Door opening with CW+ studs



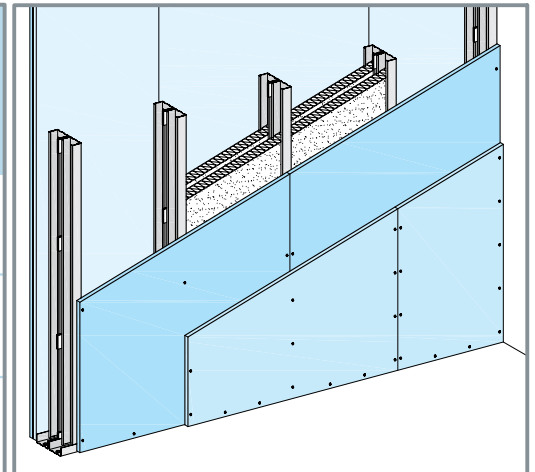
# Knauf Metal Stud Partition

# W115

## Double Metal Stud Frame, Double Layer Cladding

### Wall heights

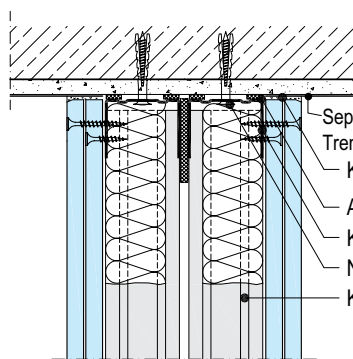
| Studs                                       | Spacing of studs | Maximum wall heights |             |
|---------------------------------------------|------------------|----------------------|-------------|
|                                             |                  | Installation zone    |             |
| metal thickness 0.6mm<br>flange length 44mm | cm               | 1<br>(in m)          | 2<br>(in m) |
| Knauf Stud                                  | 60               | 3.35                 | -           |
| <b>CW+50</b>                                |                  |                      |             |
| Knauf Stud                                  | 60               | 4.15                 | 2.80 (*)    |
| <b>CW+70</b>                                |                  |                      |             |
| Knauf Stud                                  | 60               | 5.05                 | 5.05        |
| <b>CW+92</b>                                |                  |                      |             |



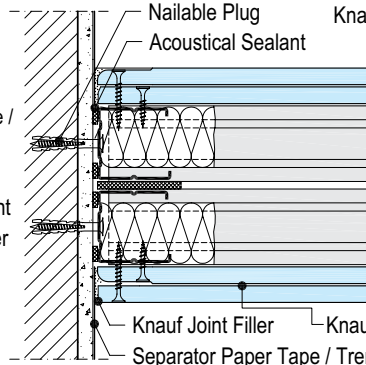
Maximum wall heights calculated based on limiting deflection of L/240 at 240Pa

(\*) without any bracket load

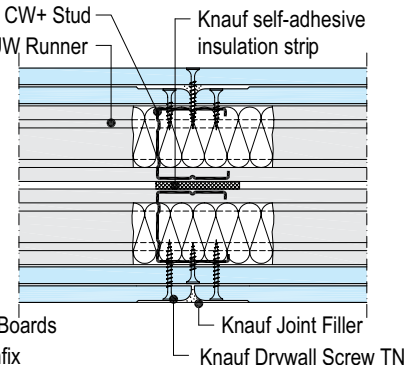
### Details scale 1:5



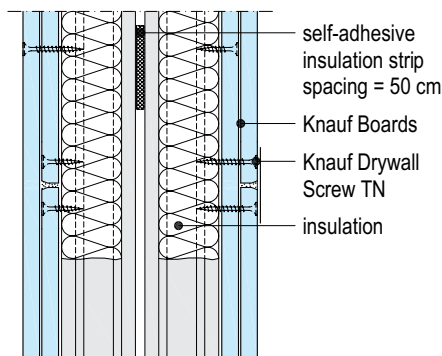
**W115-VO1** Connection to ceiling



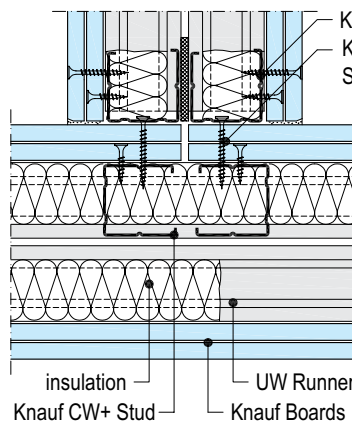
**W115-A1** Connection to solid wall



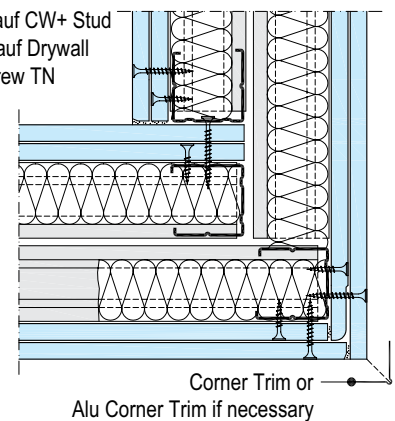
**W115-B1** Joint



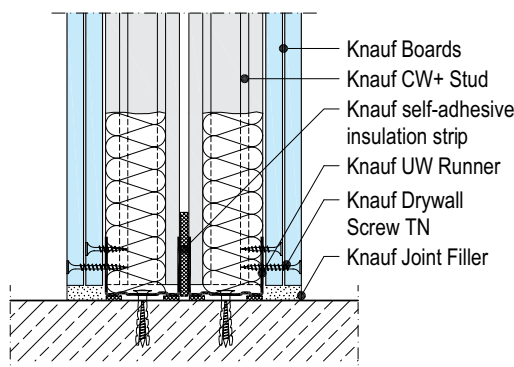
**W115-VM1** Joint



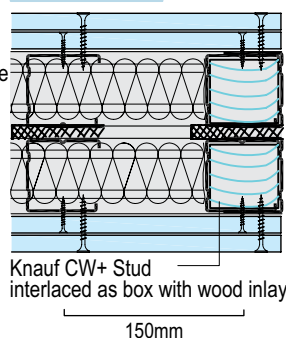
**W115-C1** T-junction



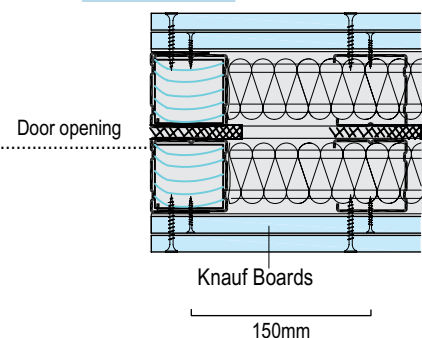
**W115-D1** Corner



**W115-VU1** Connection to floor



**W115-E1** Door opening with CW+ Profile



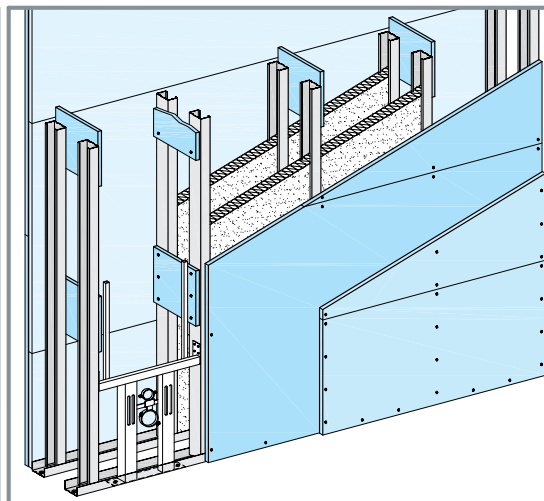
# Knauf Installation Wall

# W116

## Double Metal Stud Frame, Double Layer Cladding

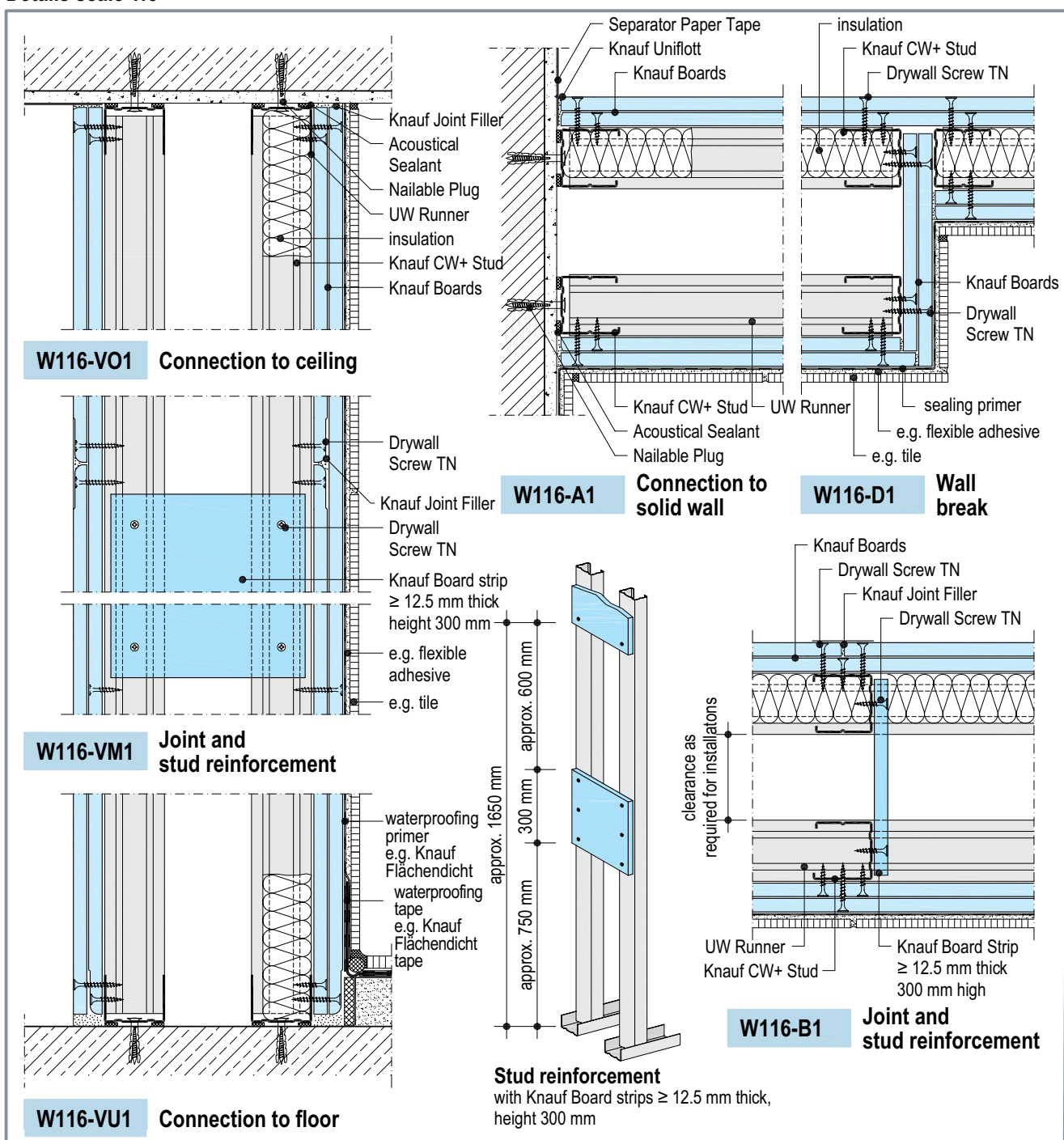
Wall heights

| Studs                                       | Spacing of studs | Maximum wall heights |             |
|---------------------------------------------|------------------|----------------------|-------------|
|                                             |                  | Installation zone    |             |
| metal thickness 0.6mm<br>flange length 44mm | cm               | 1<br>(in m)          | 2<br>(in m) |
| Knauf Stud<br><b>CW+50</b>                  | 60               | 3.80                 | -           |
| Knauf Stud<br><b>CW+70</b>                  | 60               | 5.10                 | 5.10        |
| Knauf Stud<br><b>CW+92</b>                  | 60               | 6.45                 | 6.45        |



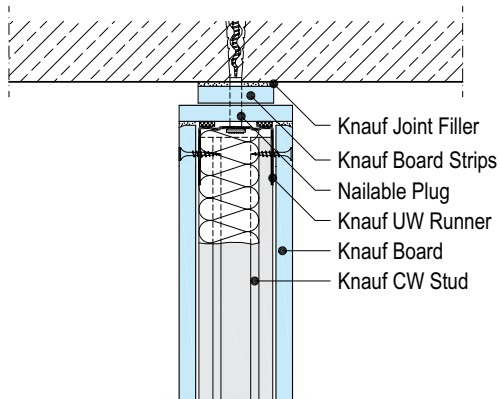
Maximum wall heights calculated based on limiting deflection of L/240 at 240Pa

Details scale 1:5

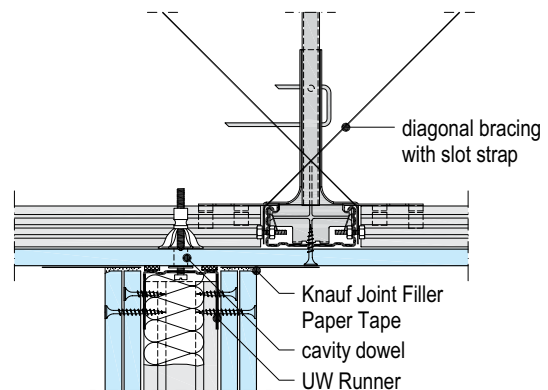


## Details: Connections to Ceilings

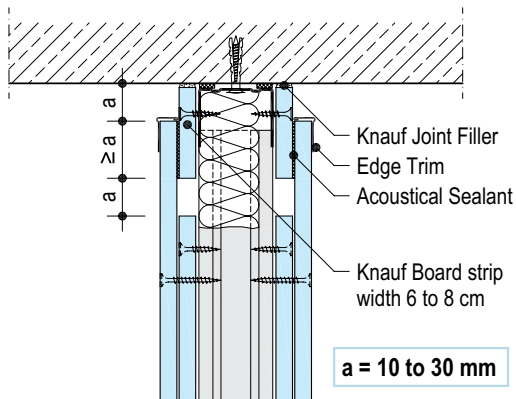
Details scale 1:5



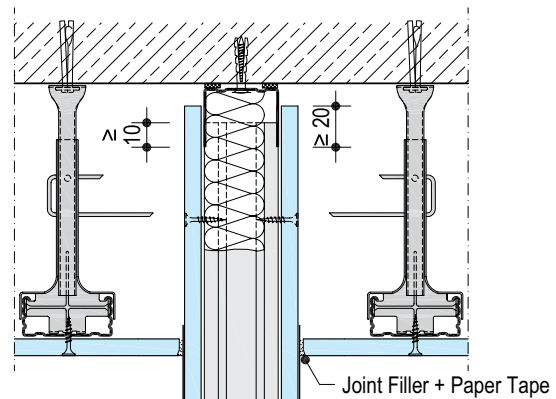
**W111-VO3** Connection with shadow gap for fire protection



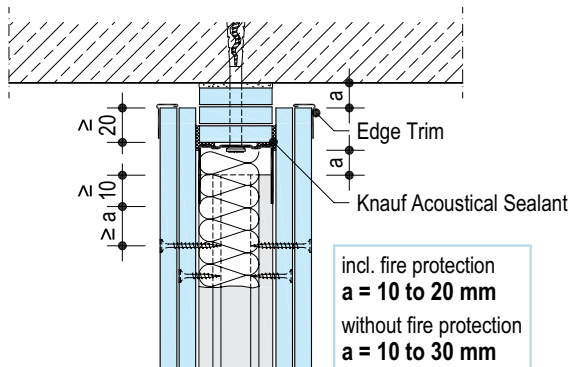
**W112-VO4** Connection to suspended ceiling



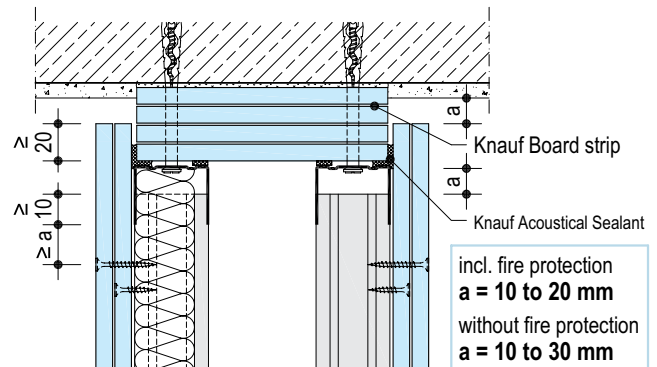
**W112-VO3** Deflection head  
reduction of sound protection approx. 3 dB



**W111-VO2** Deflection head with  
separated suspended ceiling



**W112-VO2** Deflection head for  
fire and / or sound  
protection requirements

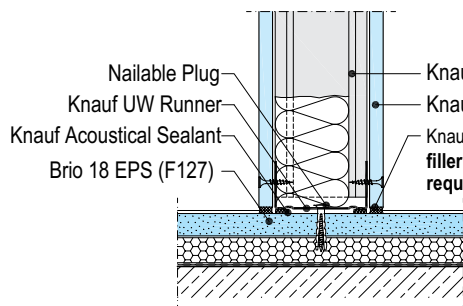


**W116-VO2** Deflection head for  
fire and / or sound  
protection requirements

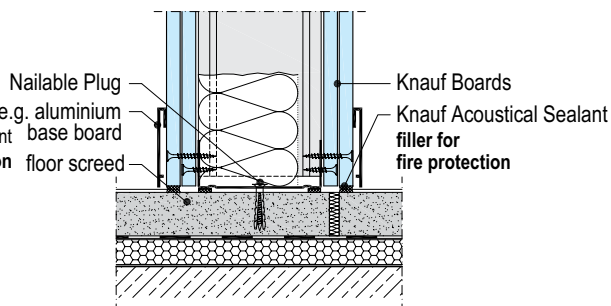
### Note

Solutions for higher ceiling deflections  
on request

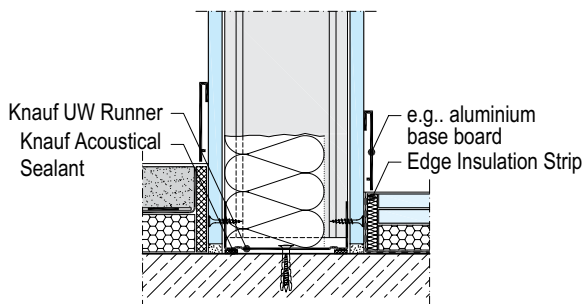
Details scale 1:5



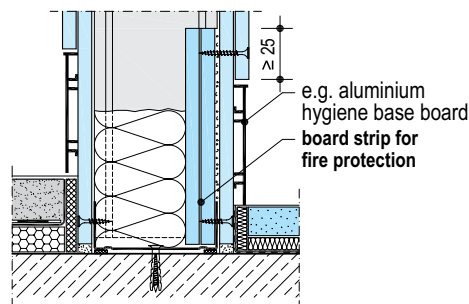
**W111-VU2** Connection to Knauf Floor Elements F127



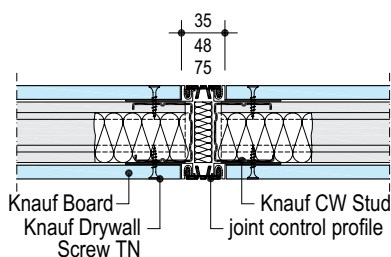
**W112-VU2** Connection to floor screed, separated



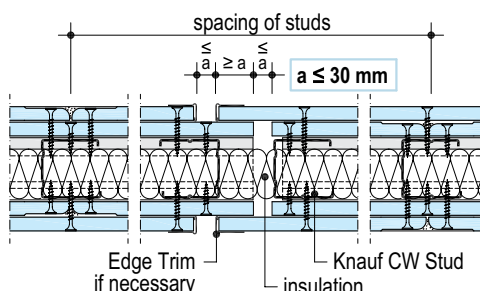
**W111-VU3** Connection to basic floor



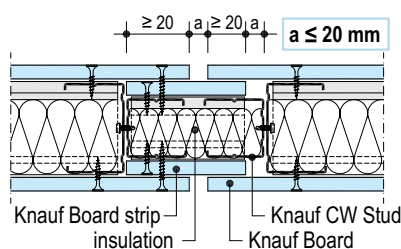
**W112-VU3** Reduced connection to basic floor



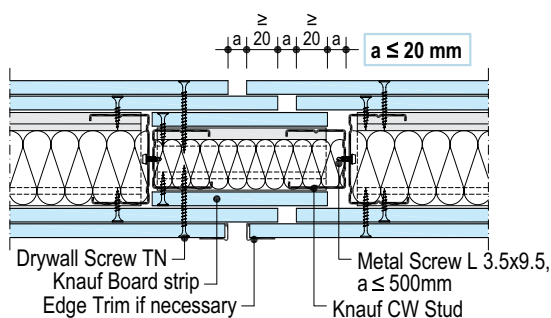
**W111-BFU2** Movement joint with joint profile



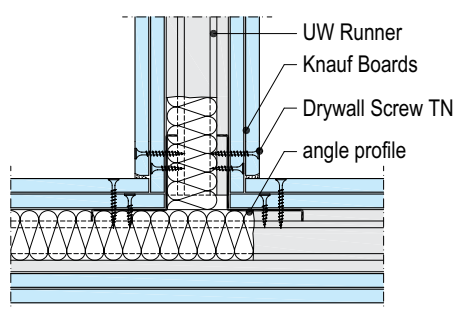
**W112-BFU2** Movement joint



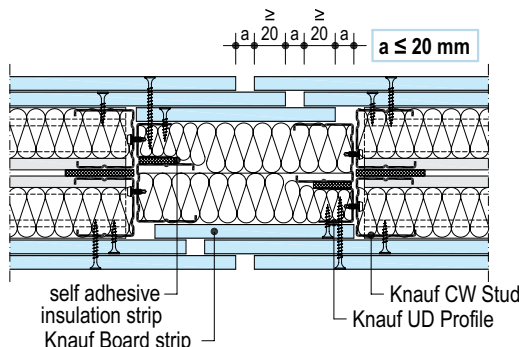
**W111-BFU1** F30 movement joint



**W112-BFU1** F90 movement joint



**W112-C2** T-junction with angle profiles



**W115-BFU1** F90 movement joint



# Knauf Metal Stud Partitions

# W11

## Stud Joints / Partitions W111 and W112 without Connection to Ceiling

### Vertical stud joints

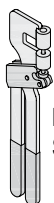
#### Knauf Stud Overlap u

|     |     |          |
|-----|-----|----------|
| CW+ | 50  | ≥ 50 cm  |
| CW+ | 70  | ≥ 70 cm  |
| CW+ | 92  | ≥ 92 cm  |
| CW+ | 146 | ≥ 146 cm |

#### Displace stud joints vertically

##### fit-up aid:

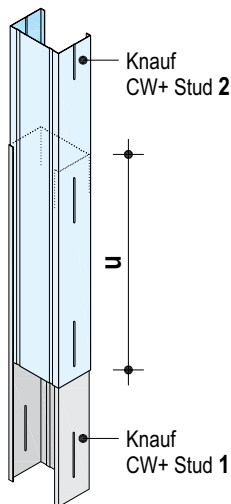
Crimp, rivet or screw Studs at overlap



Knauf Stamp Pliers

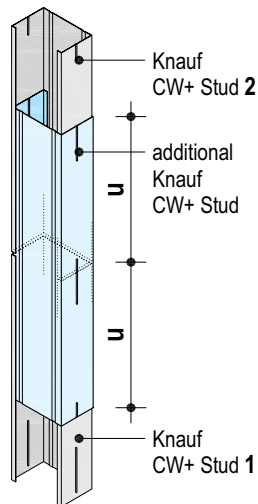
#### Variation 1

2 Knauf CW+ Studs interlaced as box



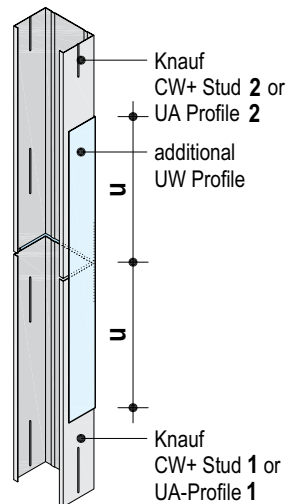
#### Variation 2

2 Knauf CW+ Studs butt joint interlaced with additional Knauf CW+ Stud



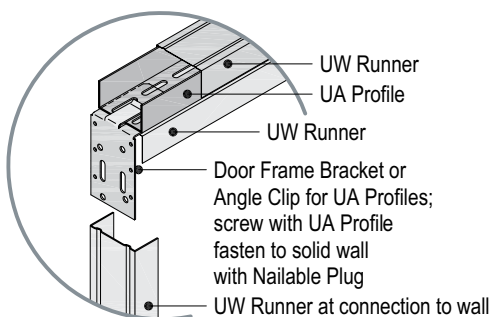
#### Variation 3

2 Knauf CW+ Studs butt joint connected with additional UW Runner

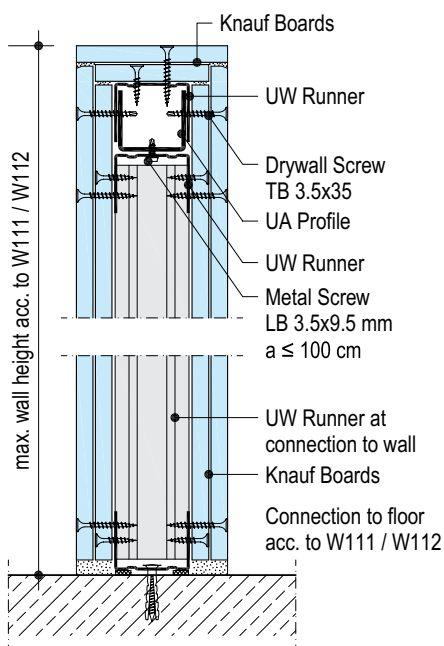


## Partitions W111 / W112 without connection to ceiling

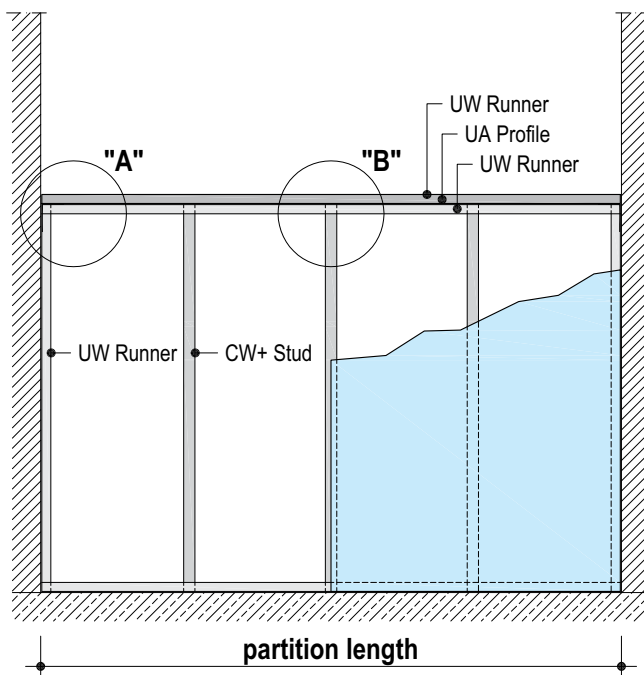
• without fire protection



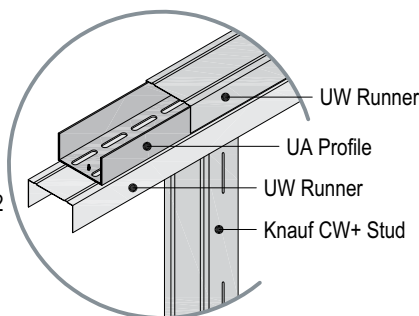
Detail "A"



Vertical section



View



Detail "B"

#### Max. partition length (span of UA Profile)

| UA Profile      | max. allowable partition width |                   |
|-----------------|--------------------------------|-------------------|
|                 | cladding                       |                   |
|                 | 12.5 mm (W111)                 | 2x 12.5 mm (W112) |
| metal thickness | m                              | m                 |
| 2 mm            |                                |                   |
| UA 50           | 3                              | 4                 |
| UA 70           | 4.5                            | 5.5               |
| UA 92           | 5                              | 6.5               |

## Bent Partitions with Bent Knauf Boards and UW Runners 70x32x0.6 Pre-punched at Web

| Inside Arch - Concave | Outside Arch - Convex | Board thickness<br>d mm      | Bending radius r | Length of layout L                                                                       |
|-----------------------|-----------------------|------------------------------|------------------|------------------------------------------------------------------------------------------|
|                       |                       |                              | dry bending mm   | • angle $\alpha \geq 90^\circ$<br>$L = \frac{r \cdot \pi}{2}$                            |
|                       |                       | 6.5 (Mold Board) $\geq 1000$ | $\geq 300$       | • angle $\alpha \geq 180^\circ$<br>$L = r \cdot \pi$                                     |
|                       |                       | 9.5 $\geq 2000$              | $\geq 500$       | • all angles up to $\alpha \geq 180^\circ$<br>$L = \frac{\alpha \cdot r \cdot \pi}{180}$ |
|                       |                       | 12.5 $\geq 2750$             | $\geq 1000$      |                                                                                          |
|                       |                       | longitudinal bending only    |                  |                                                                                          |

### Biegeanleitung

**wet bending**

batten to fix the board

angle or CD Channel to support boards

Knauf Board strip

cut board  $d \geq 12.5$  mm

molding device

length of layout longitudinal direction

**Wet bending**

- Put the cut-to-length Knauf Boards on a grid made of channels or similar with the side to be compressed on top and exceeding the grid on the perimeters (so excess water can drip off).
- Perforate the board laterally and longitudinally with Spike Roller.
- Wet the board by spraying or with lambskin roller and let it settle for a few minutes. Repeat process until excessive water drains.
- Lay board on precast molding device, fix with tape and let it dry.

molding device

### Detail scale 1:5

UW Runner 70x32x0.6

Knauf CW Stud 70x35x0.6

UW Runner 70x32x0.6

Drywall Screw TN

e.g. Knauf Mold Boards 2x 6.5 mm

Nailable Plug

UW Runner 70x32x0.6

Knauf Joint Filler+ Knauf Joint Tape

**Assembly**

- cut outside flange at web punches
- bend UW Runners to required radius
- connect Knauf CW Studs to pre-punched UW Runners by crimping
- cladding lateral

**spacing Knauf CW Studs:**  $\leq 312.5$  mm (outside radius)

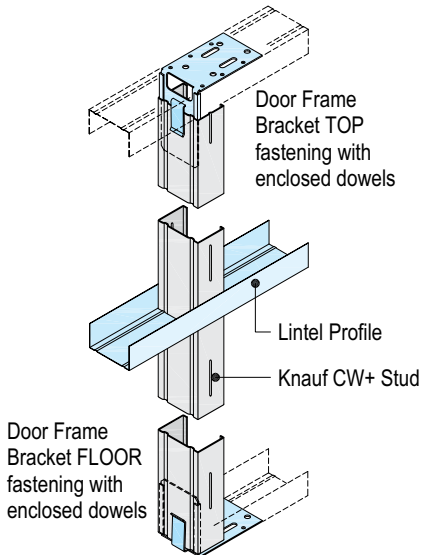
**spacing Nailable Plug:**  $\leq 300$  mm

## Door Openings: Stud Construction / Cladding / Door Panel Weight

### Stud construction

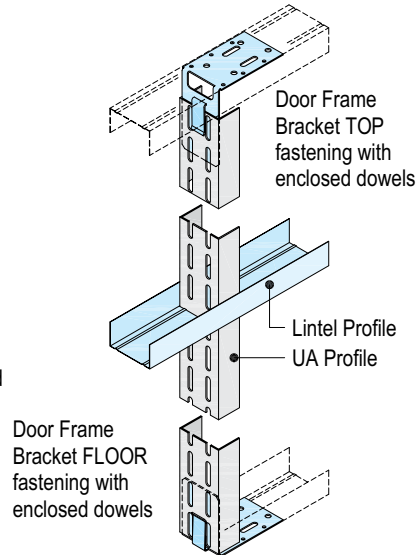
#### Variation CW+

- acc. to DIN 18340
  - wall heights  $\leq 2.60$  m
  - door width  $\leq 0.885$  m
  - door panel weight  $\leq 25$  kg



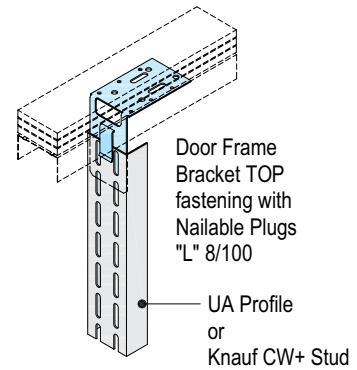
#### Variation UA

- remove plastic strip from Door Frame Bracket
- acc. to DIN 18340
  - wall heights  $> 2.60$  m
  - door width  $> 0.885$  m
  - door panel weight  $> 25$  kg



#### Deflection head

- possible with CW+ or UA



scheme drawings

#### Note

#### Door Frame Brackets for Knauf CW+ studs 50/70/92/146

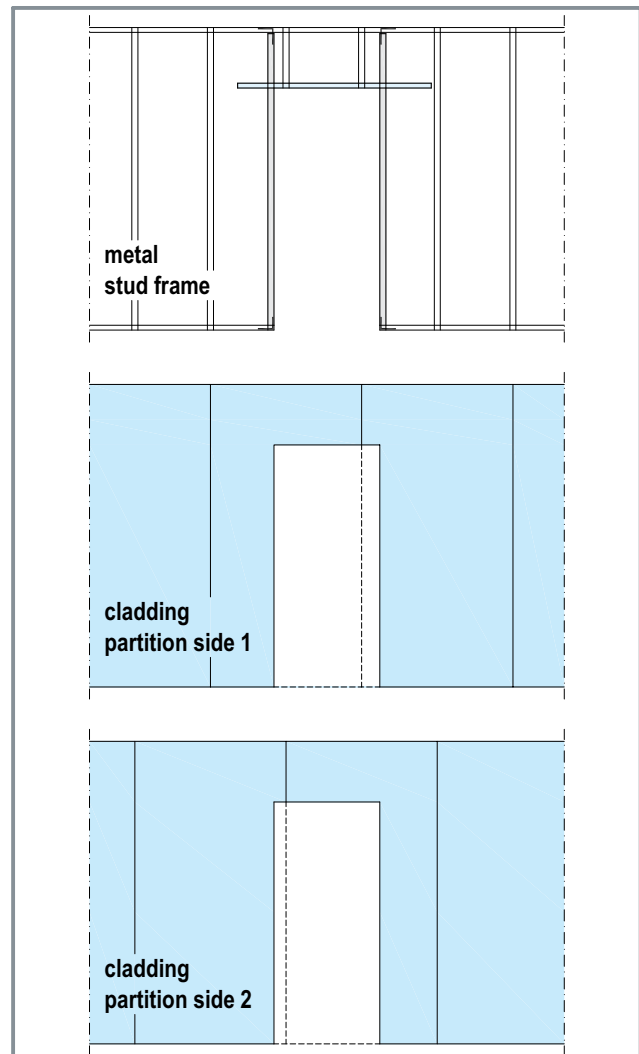
Set includes:  
4 Door Frame Brackets and 10 dowels

#### Maximum door panel weight

| Variation CW+<br>Knauf CW+ Studs | Knauf CW+ studs<br>interlaced with wood inlay |
|----------------------------------|-----------------------------------------------|
| $\leq 25$ kg                     | $\leq 60$ kg                                  |

#### Note

For heavy duty door panels  $\geq 60$  kg contact Knauf Drywall Systems Technical Team.



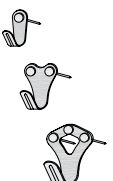
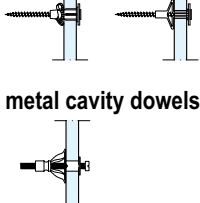
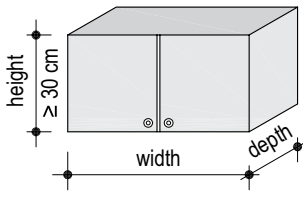
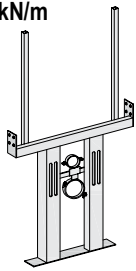


## DIN 4103: Installation Zones / Cantilever Loads

### Installation zones

| Installation zone 1                                                                                                                                  | Installation zone 2                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Partitions in rooms where low numbers of persons gather, e.g. dwellings, hotels, office and hospital rooms including corridors and halls or similar. | Partitions in rooms where large numbers of persons gather, e.g. meeting halls, school classrooms, lecture rooms, exhibition halls and sales-rooms and rooms with floor height differences of $\geq 1$ m. |

### Cantilever loads

|                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>up to 15 kg hook</b><br><b>light items e.g. pictures can be fastened with X-Hooks</b><br><br>loading 5 kg<br>loading 10 kg<br>loading 15 kg | <b>up to 0.7 kN/m dowel</b><br><b>plastic cavity dowels</b><br><br><b>metal cavity dowels</b><br><br><b>cabinet</b><br> | <b>up to 1.5 kN/m sanistands/ traverses</b><br><b>Cantilever loads above 0.7 kN/m up to 1.5 kN/m wall length are to be transferred into the metal stud frame via traverses or sanistands</b><br> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

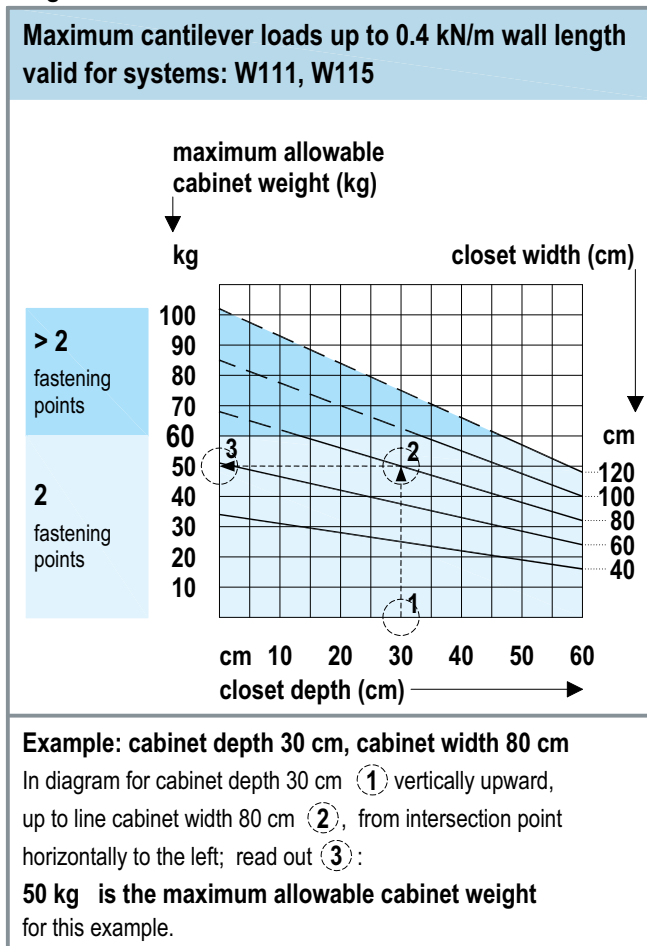
### Dowel loading - tension and shear stresses

| Thickness of cladding | Plastic cavity dowel<br>$\varnothing 8$ or $\varnothing 10$ mm | Metal cavity dowel<br>screw M5 or M6 |
|-----------------------|----------------------------------------------------------------|--------------------------------------|
| mm                    | kg                                                             | kg                                   |
| 12,5                  | 25                                                             | 30                                   |
| 20                    | 35                                                             | 40                                   |
| $\geq 2 \times 12,5$  | 40                                                             | 50                                   |

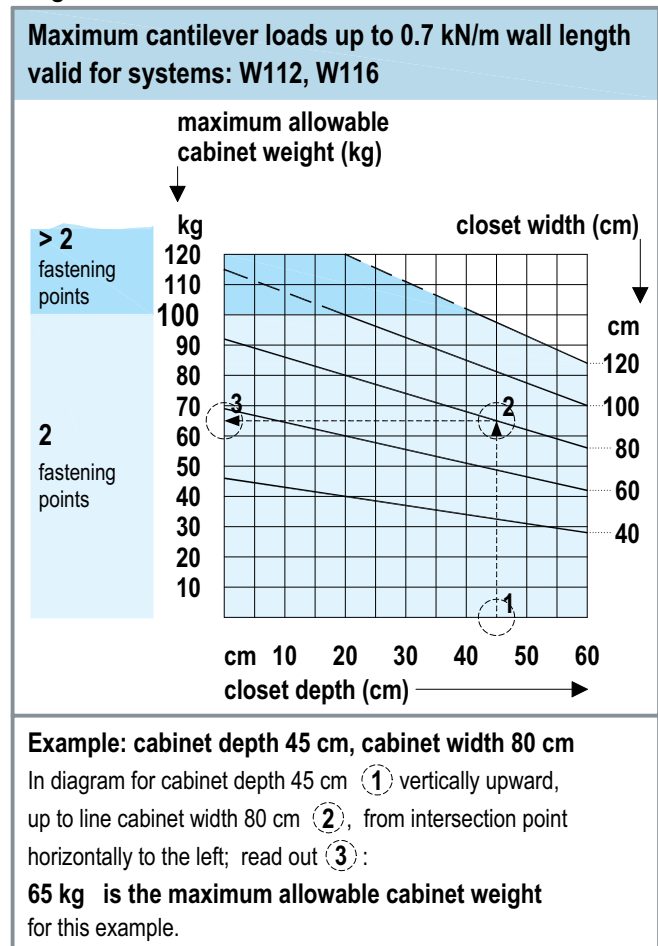
According to DIN 18183 cantilever loads up to 0.7 kN/m wall length can be applied to any position on partitions under consideration of the cantilever arm (closet height  $\geq 30$  cm) and eccentricity (closet depth  $\leq 60$  cm). Spacing of dowels  $\geq 75$  mm.

The fastening of cantilever loads has to be done with at least 2 cavity dowels made of plastic or metal, e.g. Tox Universal, Fischer Universal, Molly Screwing Anchor.

### Diagram 1



### Diagram 2



## Material Requirements

| Material requirement per m² partition without addition for loss and waste. |                                                                                   |      |                         |         |         |         |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-------------------------|---------|---------|---------|
| Amounts refer to an area of: W111 to W116: H= 2.75 m; L= 4 m; A= 11 m².    |                                                                                   |      |                         |         |         |         |
| description                                                                |                                                                                   | unit | amount as average value |         |         |         |
| <i>italic = not provided by Knauf</i>                                      |                                                                                   |      | W111                    | W112    | W115    | W116    |
| metal stud frame                                                           |                                                                                   |      |                         |         |         |         |
|                                                                            | UW Track (any size) (4 m long)                                                    | m    | 0.7                     | 0.7     | 1.4     | 1.4     |
|                                                                            | (4 m long)                                                                        |      |                         |         |         |         |
|                                                                            | (4 m long)                                                                        |      |                         |         |         |         |
|                                                                            | Knauf CW+ Stud (any size)                                                         | m    | 2.0                     | 2.0     | 4.0     | 4.0     |
|                                                                            | Sealing Tape sections 70/3.2 mm, 100 mm long; (25 m roll)                         | m    | -                       | -       | 0.5     | -       |
| or                                                                         | Knauf Acoustical Sealant; (pouch 550 ml)                                          | pcs  | 0.3                     | 0.3     | 0.6     | 0.6     |
|                                                                            | Knauf Sealing Tape; (25 m roll)                                                   |      |                         |         |         |         |
|                                                                            | 50/3.2 mm                                                                         | m    | 1.2                     | 1.2     | 2.4     | 2.4     |
|                                                                            | 70/3.2 mm                                                                         |      |                         |         |         |         |
|                                                                            | 92/3.2 mm                                                                         |      |                         |         |         |         |
|                                                                            | 146/3.2 mm                                                                        |      |                         |         |         |         |
| resp.                                                                      | Nailable Plug "K" 6/35; (100 pcs. box)                                            | pcs  | 1.6                     | 1.6     | 3.2     | 3.2     |
|                                                                            | Nailable Plug "K" 6/50; (100 pcs. box)<br>(for connections to plastered surfaces) |      |                         |         |         |         |
| <i>insulation (for fire protection see pages 4+5)</i>                      |                                                                                   | m²   | as req.                 | as req. | as req. | as req. |
| .... mm thick                                                              |                                                                                   |      |                         |         |         |         |
| 40 mm + 60 mm thick                                                        |                                                                                   |      |                         |         |         |         |
| cladding                                                                   |                                                                                   |      |                         |         |         |         |
| resp.                                                                      | Knauf Regular RG / MR (impregn.); 12.5 / 15 mm                                    |      | 2.0                     | 4.0     | 4.0     | 4.1     |
|                                                                            | Knauf Fire Res. Board FR/FM (impregn.); 12.5 / 15mm                               |      |                         |         |         |         |
| Knauf Drywall Screws; (fastening of cladding)                              |                                                                                   |      |                         |         |         |         |
|                                                                            | TN 3.5 x 25 mm                                                                    | pcs  | 29                      | 13      | 13      | 17      |
|                                                                            | TN 3.5 x 35 mm                                                                    |      | -                       | 29      | 29      | 29      |
|                                                                            | TN 3.5 x 55 mm                                                                    |      | -                       | -       | -       | -       |
| jointing                                                                   |                                                                                   |      |                         |         |         |         |
|                                                                            | Knauf Fugenfuller; (30 kg bag)                                                    | kg   | 0.5                     | 0.8     | 0.8     | 0.8     |
| or                                                                         | Knauf Readyfix (28 kg pail)                                                       |      | 0.8                     | 1.0     | 1.0     | 1.0     |
|                                                                            |                                                                                   | kg   | -                       | -       | -       | -       |
|                                                                            | Knauf Joint Tape; (90 m roll)                                                     | m    | 1.5                     | 1.5     | 1.5     | 1.5     |
|                                                                            | Edge Trim 23/13; (2.75 m long)                                                    | m    |                         |         |         |         |
|                                                                            | Corner Trim 31/31; (2.60 m/3 m long)                                              | m    | as req.                 | as req. | as req. | as req. |
|                                                                            | Alux Corner Tape width 52 mm; (30 m roll)                                         | m    |                         |         |         |         |

as req.= as required

### Note

Values without determined fire or sound protection requirements

## Example Specifications

| Single Board Cladding + Single Stud + None Fire Rated Partitions     |                                                                                                                                                                         |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System Description</b>                                            |                                                                                                                                                                         |
| System Code:                                                         | <b>Knauf Metal Stud Partition W111</b>                                                                                                                                  |
| Partition Type                                                       | Non-load bearing partition according to DIN4103-1                                                                                                                       |
| Installation Zone                                                    | 1                                                                                                                                                                       |
| <b>Performance</b>                                                   |                                                                                                                                                                         |
| Maximum Height                                                       | 3.15m at 600mm Stud Spacing                                                                                                                                             |
| Limiting Deflection                                                  | L/240                                                                                                                                                                   |
| Maximum Air Pressure                                                 | 240Pa                                                                                                                                                                   |
| Fire Resistance Class                                                |                                                                                                                                                                         |
| Sound Reduction Index (Rw,r)                                         | 42dB when tested according to EN ISO 140-3                                                                                                                              |
| <b>Construction</b>                                                  |                                                                                                                                                                         |
| Partition Width                                                      | 75mm (excluding finishes)                                                                                                                                               |
| Head Condition                                                       | To underside of structural soffit                                                                                                                                       |
| Head Deflection allowance                                            | 10mm                                                                                                                                                                    |
| <b>Framing</b>                                                       |                                                                                                                                                                         |
| Stud Configuration:                                                  | Knauf CW+50/44/0.6mm Studs spaced at 600mm                                                                                                                              |
| Head/Floor Tracks                                                    | Knauf UW50/32/0.6mm Tracks fixed to perimeter                                                                                                                           |
| <b>Board Cladding</b>                                                |                                                                                                                                                                         |
| Board Type                                                           | 1x12.5mm Knauf Regular Gypsum Board to each side of stud ** Use Knauf Moisture resistant Gypsum Board in humid areas                                                    |
| Screws                                                               | Knauf TN25mm Drywall Screws spaced at every 250mm                                                                                                                       |
| Sealant                                                              | Knauf Acoustical Sealant/Knauf Sealing Tape                                                                                                                             |
| <b>Insulation</b>                                                    |                                                                                                                                                                         |
| Type                                                                 | Mineral Wool                                                                                                                                                            |
| Thickness                                                            | 40mm                                                                                                                                                                    |
| Density                                                              | min. 18kg/m3                                                                                                                                                            |
| <b>Finishing</b>                                                     |                                                                                                                                                                         |
| Tape and Joint                                                       | Taped and jointed for a seamless finish using Knauf Joint Tape and Joint Compounds                                                                                      |
| Skim Coat (optional)                                                 | Skim coating with Knauf Readyfix for Q3 level high quality surface level requirement                                                                                    |
| Double Board Cladding + Single Stud + 1.5 Hour Fire Rated Partitions |                                                                                                                                                                         |
| <b>System Description</b>                                            |                                                                                                                                                                         |
| System Code:                                                         | <b>Knauf Metal Stud Partition W112</b>                                                                                                                                  |
| Partition Type                                                       | Non-load bearing partition according to DIN4103-1                                                                                                                       |
| Installation Zone                                                    | 1                                                                                                                                                                       |
| <b>Performance</b>                                                   |                                                                                                                                                                         |
| Maximum Height                                                       | 4.80m at 600mm Stud Spacing                                                                                                                                             |
| Limiting Deflection                                                  | L/240                                                                                                                                                                   |
| Maximum Air Pressure                                                 | 240Pa                                                                                                                                                                   |
| Fire Resistance Class                                                | 90 minutes when tested according to DIN4102-2 and BS476: Parts 20&22: 1987                                                                                              |
| Sound Reduction Index (Rw,r)                                         | 52dB when tested according to EN ISO 140-3                                                                                                                              |
| <b>Construction</b>                                                  |                                                                                                                                                                         |
| Partition Width                                                      | 120mm (excluding finishes)                                                                                                                                              |
| Head Condition                                                       | To underside of structural soffit                                                                                                                                       |
| Head Deflection allowance                                            | 10mm                                                                                                                                                                    |
| <b>Framing</b>                                                       |                                                                                                                                                                         |
| Stud Configuration:                                                  | Knauf CW+70/44/0.6mm Studs spaced at 600mm                                                                                                                              |
| Head/Floor Tracks                                                    | Knauf UW70/32/0.6mm Tracks fixed to perimeter                                                                                                                           |
| <b>Board Cladding</b>                                                |                                                                                                                                                                         |
| Board Type                                                           | 2x12.5mm Knauf Fire resistant Gypsum Board to each side of stud ** Use Knauf Fire and Moisture resistant Gypsum Board in humid areas                                    |
| Screws                                                               | Knauf TN25mm Drywall Screws spaced at every 750mm at first layer of board cladding, Knauf TN35mm Drywall Screws spaced at every 250mm at second layer of board cladding |
| Sealant                                                              | Knauf Acoustical Sealant/Knauf Sealing Tape                                                                                                                             |
| <b>Insulation</b>                                                    |                                                                                                                                                                         |
| Type                                                                 | Mineral Wool                                                                                                                                                            |
| Thickness                                                            | 60mm                                                                                                                                                                    |
| Density                                                              | min. 18kg/m3                                                                                                                                                            |
| <b>Finishing</b>                                                     |                                                                                                                                                                         |
| Tape and Joint                                                       | Taped and jointed for a seamless finish using Knauf Joint Tape and Joint Compounds                                                                                      |
| Skim Coat (optional)                                                 | Skim coating with Knauf Readyfix for Q3 level high quality surface level requirement                                                                                    |

## Example Specifications

| Double Board Cladding + Single Stud + Two Hour Fire Rated Partitions                   |                                                                                                                                                                         |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System Description</b>                                                              |                                                                                                                                                                         |
| System Code:                                                                           | <b>Knauf Metal Stud Partition W112</b>                                                                                                                                  |
| Partition Type                                                                         | Non-load bearing partition according to DIN4103-1                                                                                                                       |
| Installation Zone                                                                      | 1                                                                                                                                                                       |
| <b>Performance</b>                                                                     |                                                                                                                                                                         |
| Maximum Height                                                                         | 4.80m at 600mm Stud Spacing                                                                                                                                             |
| Limiting Deflection                                                                    | L/240                                                                                                                                                                   |
| Maximum Air Pressure                                                                   | 240Pa                                                                                                                                                                   |
| Fire Resistance Class                                                                  | 120 minutes when tested according to DIN4102-2 and BS476: Parts 20&22: 1987                                                                                             |
| Sound Reduction Index (Rw,r)                                                           | 53dB when tested according to EN ISO 140-3                                                                                                                              |
| <b>Construction</b>                                                                    |                                                                                                                                                                         |
| Partition Width                                                                        | 130mm (excluding finishes)                                                                                                                                              |
| Head Condition                                                                         | To underside of structural soffit                                                                                                                                       |
| Head Deflection allowance                                                              | 10mm                                                                                                                                                                    |
| <b>Framing</b>                                                                         |                                                                                                                                                                         |
| Stud Configuration:                                                                    | Knauf CW+70/44/0.6mm Studs spaced at 600mm                                                                                                                              |
| Head/Floor Tracks                                                                      | Knauf UW70/32/0.6mm Tracks fixed to perimeter                                                                                                                           |
| <b>Board Cladding</b>                                                                  |                                                                                                                                                                         |
| Board Type                                                                             | 2x15mm Knauf Fire resistant Gypsum Board to each side of stud ** Use Knauf Fire and Moisture resistant Gypsum Board in humid areas                                      |
| Screws                                                                                 | Knauf TN25mm Drywall Screws spaced at every 750mm at first layer of board cladding, Knauf TN35mm Drywall Screws spaced at every 250mm at second layer of board cladding |
| Sealant                                                                                | Knauf Acoustical Sealant/Knauf Sealing Tape                                                                                                                             |
| <b>Insulation</b>                                                                      |                                                                                                                                                                         |
| Type                                                                                   | Mineral Wool                                                                                                                                                            |
| Thickness                                                                              | 60mm                                                                                                                                                                    |
| Density                                                                                | min. 18kg/m3                                                                                                                                                            |
| <b>Finishing</b>                                                                       |                                                                                                                                                                         |
| Tape and Joint                                                                         | Taped and jointed for a seamless finish using Knauf Joint Tape and Joint Compounds                                                                                      |
| Skim Coat (optional)                                                                   | Skim coating with Knauf Readyfix for Q3 level high quality surface level requirement                                                                                    |
| Double Board Cladding + Double Stud + High Sound Insulating Separating Wall Partitions |                                                                                                                                                                         |
| <b>System Description</b>                                                              |                                                                                                                                                                         |
| System Code:                                                                           | <b>Knauf Metal Stud Partition W115</b>                                                                                                                                  |
| Partition Type                                                                         | Non-load bearing partition according to DIN4103-1                                                                                                                       |
| Installation Zone                                                                      | 1                                                                                                                                                                       |
| <b>Performance</b>                                                                     |                                                                                                                                                                         |
| Maximum Height                                                                         | 3.35m at 600mm Stud Spacing                                                                                                                                             |
| Limiting Deflection                                                                    | L/240                                                                                                                                                                   |
| Maximum Air Pressure                                                                   | 240Pa                                                                                                                                                                   |
| Fire Resistance Class                                                                  | 90 minutes when tested according to DIN4102-2 and BS476: Parts 20&22: 1987                                                                                              |
| Sound Reduction Index (Rw,r)                                                           | 59dB when tested according to EN ISO 140-3                                                                                                                              |
| <b>Construction</b>                                                                    |                                                                                                                                                                         |
| Partition Width                                                                        | 130mm (excluding finishes)                                                                                                                                              |
| Head Condition                                                                         | To underside of structural soffit                                                                                                                                       |
| Head Deflection allowance                                                              | 10mm                                                                                                                                                                    |
| <b>Framing</b>                                                                         |                                                                                                                                                                         |
| Stud Configuration:                                                                    | 2xKnauf CW+70/44/0.6mm Studs spaced at 600mm.<br>Knauf Sealing Tape Strips attached to stud flanges with 50cm spacing for decoupling metal frame                        |
| Head/Floor Tracks                                                                      | 2xKnauf UW70/32/0.6mm Tracks fixed to perimeter                                                                                                                         |
| <b>Board Cladding</b>                                                                  |                                                                                                                                                                         |
| Board Type                                                                             | 2x12.5mm Knauf Fire resistant Gypsum Board to each side of stud ** Use Knauf Fire and Moisture resistant Gypsum Board in humid areas                                    |
| Screws                                                                                 | Knauf TN25mm Drywall Screws spaced at every 750mm at first layer of board cladding, Knauf TN35mm Drywall Screws spaced at every 250mm at second layer of board cladding |
| Sealant                                                                                | Knauf Acoustical Sealant/Knauf Sealing Tape                                                                                                                             |
| <b>Insulation</b>                                                                      |                                                                                                                                                                         |
| Type                                                                                   | Mineral Wool                                                                                                                                                            |
| Thickness                                                                              | 2x40mm                                                                                                                                                                  |
| Density                                                                                | min. 18kg/m3                                                                                                                                                            |
| <b>Finishing</b>                                                                       |                                                                                                                                                                         |
| Tape and Joint                                                                         | Taped and jointed for a seamless finish using Knauf Joint Tape and Joint Compounds                                                                                      |
| Skim Coat (optional)                                                                   | Skim coating with Knauf Readyfix for Q3 level high quality surface level requirement                                                                                    |

## Example Specifications

| Double Board Cladding + Double Stud + Installation/Plumbing Wall |                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System Description</b>                                        |                                                                                                                                                                                                                                                                    |
| System Code:                                                     | <b>Knauf Installation W116</b>                                                                                                                                                                                                                                     |
| Partition Type                                                   | Non-load bearing partition according to DIN4103-1                                                                                                                                                                                                                  |
| Installation Zone                                                | 1                                                                                                                                                                                                                                                                  |
| <b>Performance</b>                                               |                                                                                                                                                                                                                                                                    |
| Maximum Height                                                   | 3.80m at 600mm Stud Spacing                                                                                                                                                                                                                                        |
| Limiting Deflection                                              | L/240                                                                                                                                                                                                                                                              |
| Maximum Air Pressure                                             | 240Pa                                                                                                                                                                                                                                                              |
| Fire Resistance Class                                            | 30 minutes when tested according to DIN4102-2 and BS476: Parts 20&22: 1987                                                                                                                                                                                         |
| Sound Reduction Index (Rw,r)                                     | 52dB when tested according to EN ISO 140-3                                                                                                                                                                                                                         |
| <b>Construction</b>                                              |                                                                                                                                                                                                                                                                    |
| Partition Width                                                  | >220mm (excluding finishes)                                                                                                                                                                                                                                        |
| Head Condition                                                   | To underside of structural soffit                                                                                                                                                                                                                                  |
| Head Deflection allowance                                        | 10mm                                                                                                                                                                                                                                                               |
| <b>Framing</b>                                                   |                                                                                                                                                                                                                                                                    |
| Stud Configuration:                                              | 2xKnauf CW+50/44/0.6mm Studs spaced at 600mm.<br>Knauf Sealing Tape Strips attached to stud flanges with 50cm spacing for decoupling metal frame<br>Studs attached to each other from web part with 12.5mm gypsum board strips with 300mm height for reinforcement |
| Head/Floor Tracks                                                | 2xKnauf UW50/32/0.6mm Tracks fixed to perimeter                                                                                                                                                                                                                    |
| <b>Board Cladding</b>                                            |                                                                                                                                                                                                                                                                    |
| Board Type                                                       | 2x12.5mm Knauf Fire resistant Gypsum Board to each side of stud ** Use Knauf Fire and Moisture resistant Gypsum Board in humid areas                                                                                                                               |
| Screws                                                           | Knauf TN25mm Drywall Screws spaced at every 750mm at first layer of board cladding, Knauf TN35mm Drywall Screws spaced at every 250mm at second layer of board cladding                                                                                            |
| Sealant                                                          | Knauf Acoustical Sealant/Knauf Sealing Tape                                                                                                                                                                                                                        |
| <b>Insulation</b>                                                |                                                                                                                                                                                                                                                                    |
| Type                                                             | Mineral Wool                                                                                                                                                                                                                                                       |
| Thickness                                                        | 2x40mm                                                                                                                                                                                                                                                             |
| Density                                                          | min. 18kg/m <sup>3</sup>                                                                                                                                                                                                                                           |
| <b>Finishing</b>                                                 |                                                                                                                                                                                                                                                                    |
| Tape and Joint                                                   | Taped and jointed for a seamless finish using Knauf Joint Tape and Joint Compounds                                                                                                                                                                                 |
| Skim Coat (optional)                                             | Skim coating with Knauf Readyfix for Q3 level high quality surface level requirement                                                                                                                                                                               |

### Note

Example specifications given on pages 15,16 and 17 are for guidance purposes only. Based on the technical information given on this brochure, project specifiers can modify all of the performance and construction values in order to match their project requirements when specifying W11 partition systems.

For specification support please contact Knauf Drywall Systems technical team.

## Construction and Application

### Construction

Knauf Metal Stud Partitions consist of a single metal stud frame (W111, W112,) or double metal metal stud frame (W115, W116) and a cladding of Knauf Boards RG or MR impregnated/ Fire Resistant Boards FR or FM impregnated/ LaVita Shielding Boards FR/ KNAUF Piano Sound Shield RG, FR or FM on both sides. The metal framework is fixed at the entire perimeter.

Cladding with 1 to 2 layers.

For Knauf solutions for partitions with vertical exaggeration ask Knauf Sales Force.

Insulation material for sound and thermal insulation as well as sanitary or electric built-ins can be installed into the metal frame construction.

Movement joints have to be taken over into the construction of the partitions. For continuous partitions use control joints at approx. 15 m.

#### W115 Separating Wall

For high sound protection requirements two rows of metal studs are installed parallel, isolated by Sealing Tape.

#### W116 Installation Wall

For the application of installation in the partition cavity two rows of studs can be installed and connected with Knauf Gypsum Board strips.

### Application

#### Metal stud frame

- Apply Acoustical Sealant (two strings) or Sealing Tape to backside of runners for the connection of flanking constructional components. For sound protection requirements seal up carefully with acoustical sealant according to DIN 4109, supplement 1, chapter 5.2; porous sealant strips like Sealing Tape are usually not suitable in this case.
- If a deflection of the ceiling  $\geq 10$  mm can be expected install deflection heads.
- Fix perimeter runners and studs with suitable dowels to flanking components. Spacing of dowels 1 m with at least 3 fixing points at walls.
- Anchors for solid flanking components: nailable plug/ not solid flanking components: anchors have to be permitted and standardized for the building material being used.
- Install CW studs into UW runners and align.

#### W116 Installation Wall

Connect double metal studs with approx. 30 cm wide Gypsum Board strips (spacing approx. 60 cm) to "frame studs".

#### Cladding

- Cladding preferably with vertically applied floor-to-ceiling Knauf boards. Displace joints. No joints at door opening profiles.
- For fire protection requirements fill connection to floor with filler, for sole sound protection requirements Acoustical Sealant or acrylate can be used.
- Spacing of screws 25 cm (for the first layer of double layer cladding the spacing can be increased to 75 cm).

#### W111

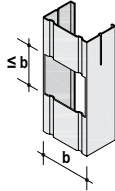
If not using floor-to-ceiling boards displace horizontal joints at least 400 mm. Filling of cut edge joints with Joint Tape is recommended. For fire protection requirements cover cut edge joints with profiles.

## Construction and Application, Jointing/ Surface Treatment

### Fixing of Knauf boards with Drywall Screws TN and TB

| Cladding thickness in mm | Fixing of Knauf boards to metal studs (minimum penetration 10 mm) |                                           |
|--------------------------|-------------------------------------------------------------------|-------------------------------------------|
|                          | metal thickness $s \leq 0.7 \text{ mm}$                           | $0.7 \text{ mm} < s \leq 2.25 \text{ mm}$ |
| 12.5 RG/ FR              | TN 3.5 x 25                                                       | TB 3.5 x 25                               |
| 2 x 12.5 RG/ FR          | TN 3.5 x 25 + TN 3.5 x 35                                         | TB 3.5 x 25 + TB 3.5 x 45                 |
| 2 x 15 FR, 15 + 12.5 FR  | TN 3.5 x 25 + TN 3.5 x 45                                         | TB 3.5 x 35 + TB 3.5 x 45                 |
| 2 x 18 FR, 25 + 12.5 FR  | TN 3.5 x 35 + TN 3.5 x 55                                         | TB 3.5 x 45 + TB 3.5 x 55                 |
| 3 x 12.5 RG/ FR          | TN 3.5 x 25 + TN 3.5 x 35 + TN 3.5 x 55                           | TB 3.5 x 25 + TB 3.5 x 45 + TB 3.5 x 55   |

### Maximum web cutout of CW+ studs of metal stud partitions

| Metal stud            | Cladding     | Web cutout number of openings | dimensions of opening  |
|-----------------------|--------------|-------------------------------|-----------------------------------------------------------------------------------------------------------|
| CW+ 70/CW+ 92/CW+ 146 | single layer | 1 per stud                    |                                                                                                           |
|                       | multi layer  | 2 per stud                    |                                                                                                           |
| CW+ 50                | multi layer  | 1 per stud                    |                                                                                                           |

*The openings according to this table can be applied in addition to the existing H punches.*

## Jointing / Surface Treatment

### Filling materials

- If using tape, hand fill with Knauf Fugenfüller or with Knauf Readyfix and Knauf Joint Tape.
- Use Knauf Readyfix for the final filling as fine finish before sanding the joints.

### Implementation

- For multi layer cladding, fill in joints of first layers, smooth joints of top layer.
- Cover all visible screw heads as well.
- **Recommendation:** Fill in and tape cut edges of visible layers no matter which filling material is used.
- Use Knauf Spezialgrund to prime the entire surface of filled Knauf boards to control suction and for optical harmonization of the surface. Knauf Spezialgrund is a system component for the creation of surfaces with higher quality requirements according to code of practice no. 2 "Verspachtelung von Gipsplatten - Oberflächengüten" of the IGG.

### Application temperature/ Climate

- Filling and covering of joints should only take place after the boards have been allowed to rest in the given humidity and temperature zones, and no more longitudinal changes can be expected, i.e. expansion or contraction.
- Joints should be filled at a minimum temperature of +10°C (50°F).
- In case of mastic asphalt screed, fill in joints after screed has been applied.

### Surface Treatment

Use a primer on Knauf Boards before coating or painting them. Ensure that the primer and the coat or paint are compatible.

The following coats can be used to cover Knauf Boards:

- Coats: Washable and abrasion-proof emulsion paint, multicolored (rainbow) emulsion, oil paint, matte-finish lacquer, alkyd resin paint, polymer resin paint, PUR lacquer, or epoxy-based lacquer, according to intended use or as required.
- Ceramic tiles: For tiling at least double layer cladding is recommended.
- Plasters: Knauf structured plasters, e.g. resin plasters, thin plasters, entire surface smoothing like e.g. Knauf Readyfix, mineral plasters in connection with paper taped jointing. After the application of resin / cellulose plasters quick drying must be assured through adequate airing.
- Wallpapers: paper, textile and synthetic wallpapers. Use only adhesives made of cellulose according to code of practice no. 16 "Technische Richtlinien für Tapezier- und Klebearbeiten", Frankfurt/Main 2002, released by Bundesausschuss Farbe und Sachwertschutz. After wallpapering of paper and fiber glass wallpapers quick drying must be assured through adequate airing.
- Alkaline coats such as lime, water glass colors and silicate-based paints are unsuitable for gypsum board surfaces.

- Silicate-based emulsion paints may be used after referring to the manufacturer's recommendations and following the stipulated guidelines closely.

Gypsum board surfaces that have constantly been exposed to light without any protection can develop yellowing agents that show up despite a coat of paint. Therefore a trial coat is recommended that will extend across several boards including all joints. Yellowing can, however, be successfully avoided only by using a special shielding primer.



## Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Knauf Drywall Systems publishes updated technical information on various products and topics. In order to request any of the brochures listed below, please contact our office at the address given below.

**Knauf Drywall Systems Guide**

**Knauf Access Panels Brochure**

**Knauf Drywall Tools Brochure**

**Knauf Drywall Training Brochure**

**Knauf Cleaneo Acoustic Ceilings Brochure**

**D11 Knauf Ceilings Technical Datasheet**

**W11 Knauf Partitions Technical Datasheet**

**D12 Knauf Cleaneo Acoustic Ceilings Technical Datasheet**

**Knauf Access Panels Technical Brochure**